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ABSTRACT

This study updates and extends the findings of Rubin, Provenzano, and Luria (1974), who found that parents perceived their newborn in sex stereotyped ways as early as a few hours after birth. In addition, fathers in their study showed more extreme sex stereotyping than mothers. Participants in the present study were 20 pairs of Caucasian, middle-class parents of first-born, healthy, vaginally-delivered newborns. Parents were interviewed 2 and 9 days after their infant's birth. Comparison of the Rubin et al. data and the day 2 data of this study revealed that fathers in this sample rated boys and girls much more similarly than the fathers in the previous study had. No significant differences were found in the extent to which mothers in the two studies rated boys and girls differently. Surprisingly, in the present study, mothers actually showed greater stereotyping than fathers on day 2, although this difference had declined and was no longer significant by day 9. Further analyses of the data were conducted to evaluate effects of infant sex, parent sex, and time of assessment on parents' ratings of their infants on specific adjective scales and on parents' reports of behaviors engaged in with infants. Despite the lack of objective differences between the girls and boys in the sample, some minor sex stereotyping differences were found; but in general, findings indicate that sex of newborn was not a compelling determinant of parental perceptions. (RH)

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Sex Stereotyping in Parents' Perceptions of Newborns

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Abstract

Rubin, Provenzano, & Luria (1974) found that parents perceived their newborns in sex stereotyped ways as early as a few hours after birth. In addition, fathers in their study showed more extreme sex stereotyping than mothers. The present study was designed to update and extend these findings.

Twenty pairs of Caucasian, middle-class parents of first-born, healthy, vaginally-delivered newborns were interviewed the second day after their infant's birth as well as one week later (day 9). Comparisons of the Rubin et al. data and the current data collected on day 2 revealed that fathers in the current sample rated boys and girls much more similarly than the fathers in the previous study had. There were no significant differences, however, in the extent to which mothers in the two studies rated boys and girls differently. Surprisingly, mothers in the present study actually showed greater stereotyping than fathers on day 2, although this difference had declined and was no longer significant by day 9.

Further analyses of the present data were conducted to evaluate the effects of infant sex, parent sex, and time of assessment on parents' ratings of their infants on specific adjective scales and on parents' reports of behaviors engaged in with infants. Several differences were found despite the lack of objective differences between the girls and boys in the sample.

Sex Stereotyping in Parents' Perceptions of Newborns

Increasing research attention has been paid in recent years to parents' perceptions of their infants' physical, behavioral, and personality characteristics. This increase in attention has resulted from accumulating evidence about the influence of parent perceptions on individual differences in infant development. Evidence suggests that parents' perceptions of their infants are related to parents' behavior toward their infants, and thus that parent perceptions can initiate a self-fulfilling prophecy process whereby the infant eventually manifests behavior congruent with the parents' initial perceptions. Evidence also suggests that parents' perceptions of their infants are not highly objective. Biased parent perceptions might produce potentially undesirable effects on infant development. The current study examined infant sex as a source of biased parent perceptions of infants.

Numerous studies have revealed sex stereotypes in adults' perceptions of infants. Only one study, however, has closely examined the influence of sex stereotyping on both fathers' and mothers' perceptions of newborn infants. This study (Rubin, Provenzano, & Luria, 1974) revealed that parents perceived their newborns in sex stereotyped ways as early as a few hours after birth. In addition, fathers showed more extreme sex stereotyping than mothers. These findings suggest that sex role socialization of the child begins almost immediately after birth. The Rubin et al. findings are widely cited in child development textbooks and studies of sex stereotyping and sex role development. One purpose of the current study was to update and extend the Rubin et al. findings. Two questions raised by the results of that study were addressed: 1) Has sex stereotyping among parents declined in the years since

the Rubin et al. study? 2) Can the difference in sex stereotyping of mothers and fathers be explained by differences in the amount of exposure the parents had to their newborn? Answers to these questions will contribute to our understanding of the role of parent perceptions in producing sex differences in infants and children.

Research on parent perceptions of infants

Infant development researchers commonly have either neglected parent perceptions of infants on the assumption that such perceptions are hopelessly idiosyncratic and unrelated to actual infant characteristics, or have assumed that parent perceptions are accurate and useful reflections of actual infant characteristics (Carey & McDevitt, 1978). Only recently have researchers recognized that parent perceptions of infants are social perceptions that reflect both the actual characteristics of infants and parents' biases (e.g., Bates, 1980; Crockenberg & Acredolo, 1983; Meares, Penman, Milgron-Friedman, & Baker, 1982; St. James-Roberts & Wolke, 1984; Stringer, Starrett, & Parker, 1986; Vaughn, Taraldson, Crichton, & Egeland, 1981).

A classic study by Broussard (1976; Broussard & Hartner, 1970) illustrated that early maternal perceptions of infants could predict much later problems in child development. Broussard argued that this relationship between early perceptions and later outcome results from the influence of the mother's perceptions on her behaviors toward her child, leading to a self-fulfilling prophecy. More recent research supports both the relationship between parent perceptions and parent behavior (Campbell, 1979; Milliones, 1978; Nover, Shore, Timberlake, & Greenspan, 1984) and the relationship

between parent perceptions at one point in time and child problems at a later point (Carek, 1981; Lee, 1982).

Research on sex stereotyping

The Rubin et al. (1974) study described above demonstrated very early sex stereotyping in parents' perceptions of newborns. A number of additional studies have demonstrated sex stereotyping in adults' perceptions of and behavior toward older infants (e.g., Condry & Condry, 1976; Meyer & Sobieszek, 1972; Seavey, Katz, & Zalk, 1975; Sidorowicz & Lunney, 1980; Will, Self, & Datan, 1976). A review of studies of parents' behavior toward male and female infants (Power, 1981) indicated that differential treatment is particularly common by fathers. Power (1981) suggests that this differential treatment of male and female infants results from parents' stereotyped perceptions of infants. This explanation is supported by the general lack of sex differences in the behavior of young infants (see review by Brackbill & Schroder, 1980).

Method

Subjects

Twenty mother-father pairs were studied. Half were parents of boys and half were parents of girls. Only non-clinic Caucasian parents with first-born, healthy, full-term, vaginally-delivered infants were recruited. Table 1 lists the characteristics of the infants and Table 2 lists the characteristics of the parents. None of these characteristics were significantly related to the infant's sex.

Insert Tables 1 and 2 about here

Procedure

Parents were approached and invited to participate in the study as soon as possible following their infant's birth. If the parents agreed to participate, appointments for interviews were made for the second day following their infant's birth. Both parents were interviewed in the hospital, but were not present during each other's interview. A second individual interview of each parent was conducted one week later (when the baby was 9 days old) in the parents' homes.

The interviews included several components. Demographic information was collected at Time 1 (day 2). At both Time 1 and Time 2 (day 9), parents were asked first to describe their infant as they would to a close friend or relative. They then rated their infant on a series of 9-point adjective scales. Eighteen of these scales were taken from Rubin et al. (1974); eleven additional scales were added. Parents then rated their infant on the 3-point temperament dimensions from the Carey Infant Temperament Questionnaire. Finally, a series of questions about the parents' perceptions of and expectations for their infant, the behaviors parents had engaged in with their infant, and miscellaneous topics were asked. Parents marked their own responses on the adjective and temperament rating scales; all other questions were asked and answered verbally and tape recorded for later transcription. Objective information about the infants was obtained from birth records. Parents were paid $10 for their participation in the study.

Results

Only analyses of the parents' descriptions of their infant, their ratings of their infant on the Rubin et al. (1974) scales, and their report of behaviors they had engaged in with their infants will be reported here.

Comparison with Rubin et al.

To compare the overall amount of sex stereotyping by parents in the Rubin et al. study with the overall amount of sex stereotyping by parents in the present study, sex stereotyping was defined as differences in ratings of boys and girls. Since only means were available for the Rubin et al. study, an analysis was conducted which compared via t-tests the overall absolute value of differences between ratings of boys and girls for mothers and fathers in each study. The means from these analyses are shown in Figure 1. Larger values indicate greater sex stereotyping.

Insert Figure 1 about here

The fathers in the Rubin et al. study showed more sex stereotyping than all other groups of parents, all $\underline{t}$s(17) > 3.14, $\underline{p}$ < .01. In the current study, the mothers stereotyped more than the fathers at Time 1, $\underline{t}(17) = 2.35$, $\underline{p} < .05$, but not at Time 2, $\underline{t}(17) = 1.97$, $\underline{p} > .05$.

Further comparison with the Rubin et al. findings was made by analyzing the Time 1 data fromthe present study in the same way that Rubin et al. had analyzed their data. Separate analyses of variance on each of the 18 adjectives were conducted with Sex of Infant and Sex of Parent as factors. Rubin et al. found Sex of Infant main effects on four variables, with girls

being rated as more soft, fine-featured, little, and inattentive. The current study produced three Sex of Infant main effects, with girls rated more fine-featured, awkward, and weak. Rubin et al. found no Sex of Parent main effects; the current study found four Sex of Parent main effects, with mothers rating babies as more calm, quiet, relaxed, and alert than fathers rated them. Rubin et al. found seven interactions between Sex of Infant and Sex of Parent, all indicating greater sex stereotyping by fathers than mothers; only one interaction was found in the present study. This interaction indicated that mothers perceived greater sex differences in infant awkwardness (with girls rated more awkward) than fathers did.

Rubin et al. reported that the parents in their study were more likely to describe their female infants using the terms beautiful, pretty, and cute. No differences were found in the current study in the terms parents used to describe their boys and girls.

Adjective Rating MANOVAs

The 18 rating scales taken from Rubin et al. were divided into three clusters so that multivariate analyses of variance (MANOVAs) could be conducted on each (see Table 3). The factors in these MANOVAs were Sex of Infant, Sex of Parent, and Time of Measurement.

Insert Table 3 about here

The Sex of Infant main effect was significant for the Physical Appearance Cluster, $F(5,14) = 4.04$, $p < .02$. Boys were rated as more large featured, $F(1,18) = 17.62$, $p < .001$, and big, $F(1,18) = 4.80$, $p < .05$ (see Figure 2).

The Time of Measurement main effect was significant for both the Physical Characteristics cluster, $F(6,13) = 3.82$, $p < .02$, and the Social Behaviors cluster, $F(7,12) = 3.30$, $p < .05$. Infants were rated as more active, strong, noisy, alert, friendly, and as better eaters at Time 2 than at Time 1, all Fs $(1,18) > 4.63$, $p < .05$ (see Figures 3 and 4). No other main effects or interactions were found.

Insert Figures 2, 3, and 4 about here

Parent behaviors

At both Time 1 and Time 2, parents were asked to report how much time they had spent with their baby, how much time they had spent holding their baby, the number of times they had fed their baby, and how many times they had changed their baby. At Time 1, they were asked to give totals for these behaviors, and at Time 2 they were asked to estimate these behaviors per day. All responses were adjusted to per day. ANOVAs were conducted on each measure, using the same factors as in the MANOVAs reported above.

Significant findings are illustrated in Figures 5, 6, 7, and 8. An interaction between Sex of Parent and Time of Measurement was found for both feeding the baby, $F(1,18) = 14.66$, $p < .001$, and changing the baby, $F(1,18) = 38.65$, $p < .001$. Main effects of Sex of Parent and Time of Measurement were also found but were subsumed by the interaction. As shown in Figures 5 and 6, mothers engaged in both of these behaviors more than fathers, and both parents engaged in these behaviors more at home (Time 2) than in the hospital (Time 1). Mothers showed a greater increase from Time 1 to Time 2 than fathers did.

Insert Figures 5, 6, 7, and 8 about here

Sex of Infant x Sex of Parent x Time of Measurement interactions were found for time spent with the baby, $F(1,18) = 5.61$, $p < .05$, and time spent holding the baby, $F(1,18) = 10.07$, $p < .005$. Sex of Parent and Time of Measurement main effects, as well as interactions between Sex of Parent and Time of Measurement were also significant. As seen in Figure 7, mothers spent more time with the babies than fathers did, and both parents spent more time with their babies at home (Time 2) than in the hospital (Time 1). Interestingly, fathers spent more time with their girls than with their boys in the hospital, but they spent more time with their boys than with their girls once the babies came home. The findings for the holding measure were somewhat similar. Again, mothers held the babies more than fathers and mothers held their babies more at home than in the hospital. At Time 1 in the hospital, fathers held girls more than boys, and mothers held boys more than girls. This relationship appears to be reversing at Time 2, but the differences due to infant sex were not significant at that time.

Discussion

These findings indicate that newborn sex was not a compelling determinant of these parents' perceptions. Paternal sex stereotyping may have declined since Rubin et al. conducted their study, although other explanations for the low level of paternal sex stereotyping in the present study are also possible. The fathers in the current study all attended prenatal classes and were present at the infants' births, and had spent an average of 15 hours with

their babies prior to the first interview. The fathers in the Rubin et al. study were not present at the infants' births and had only seen their babies briefly through the nursery window when they were interviewed within 24 hours of the infant's birth. The Rubin et al. fathers thus had little information other than sex on which to base their perceptions of their newborn, whereas the fathers in the present study had substantially more information.

The possibility remains, of course, that the fathers in the present study perceived their infants in sex stereotypical ways soon after birth but had adjusted their perceptions due to their experience with their infants. Since most fathers currently have early and frequent contact with their infants during the newborn period, such transient perceptions (if they exist at all) are probably of little significance.

Some minor sex stereotyping effects were found. Parent still tend to see boys as larger than girls, even when the actual size difference is not statistically significant. Some evidence of sex differences in treatment of boys and girls was also found, although the effects were not stable over the newborn period.

The families in the present study were well educated and middle class. Sex stereotypic parental perceptions and behaviors may be more prevalent in less well educated and less economically well off samples. In addition, the parents in our sample may at some later date begin to perceive and treat their infants differently on the basis of sex. The present data should not be interpreted to necessarily mean that sex-biased rearing of infants no longer occurs. Future research will be needed to further examine the question of when or if parents begin sex-role socialization of their children and how sex-

biased parental perceptions of their children may relate to their behaviors with those children.

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Table 1

Infant Characteristics

	Infant sex	
Characteristic	Male	Female
Weight	3487 gm	3337 gm
Length	51.22 cm	50.22 cm
Gestational age	39.4 weeks	39.7 weeks
1 minute APGAR	8.4 (7-9)	8.4 (8-9)
5 minute APGAR	8.9 (8-9)	8.9 (8-9)
Age at first interview	51.3 hours	48.4 hours
Age at second interview	8.6 days	8.7 days

Table 2

Parent Characteristics

Characteristic	Infant sex	
	Male	Female
N	10	10
Mother		
Age in years	28.3	30.1
Education		
Post-secondary	9	8
College degree	4	5
Father		
Age in years	30.4	29.7
Education		
Post-secondary	9	10
College degree	5	7
Years married	5.5	5.6
Attended prenatal classes	10	10
Father present at birth	10	10
Breast feeding	6	9

Table 3

Adjective Scale Clusters for MANOVAs

Physical appearance cluster	
Firm-Soft	Beautiful-Plain
Large featured-Fine featured	Hardy-Delicate
Big-Little	
Physical characteristics cluster	
Relaxed-Nervous	Active-Inactive
Cuddly-Not cuddly	Well coordinated-Awkward
Excitable-Calm	Strong-Weak
Social behaviors cluster	
Easy going-Fussy	Noisy-Quiet
Cheerful-Cranky	Alert-Inattentive
Good eater-Poor eater	Friendly-Unfriendly
Sociable-Unsociable	

Figure 1

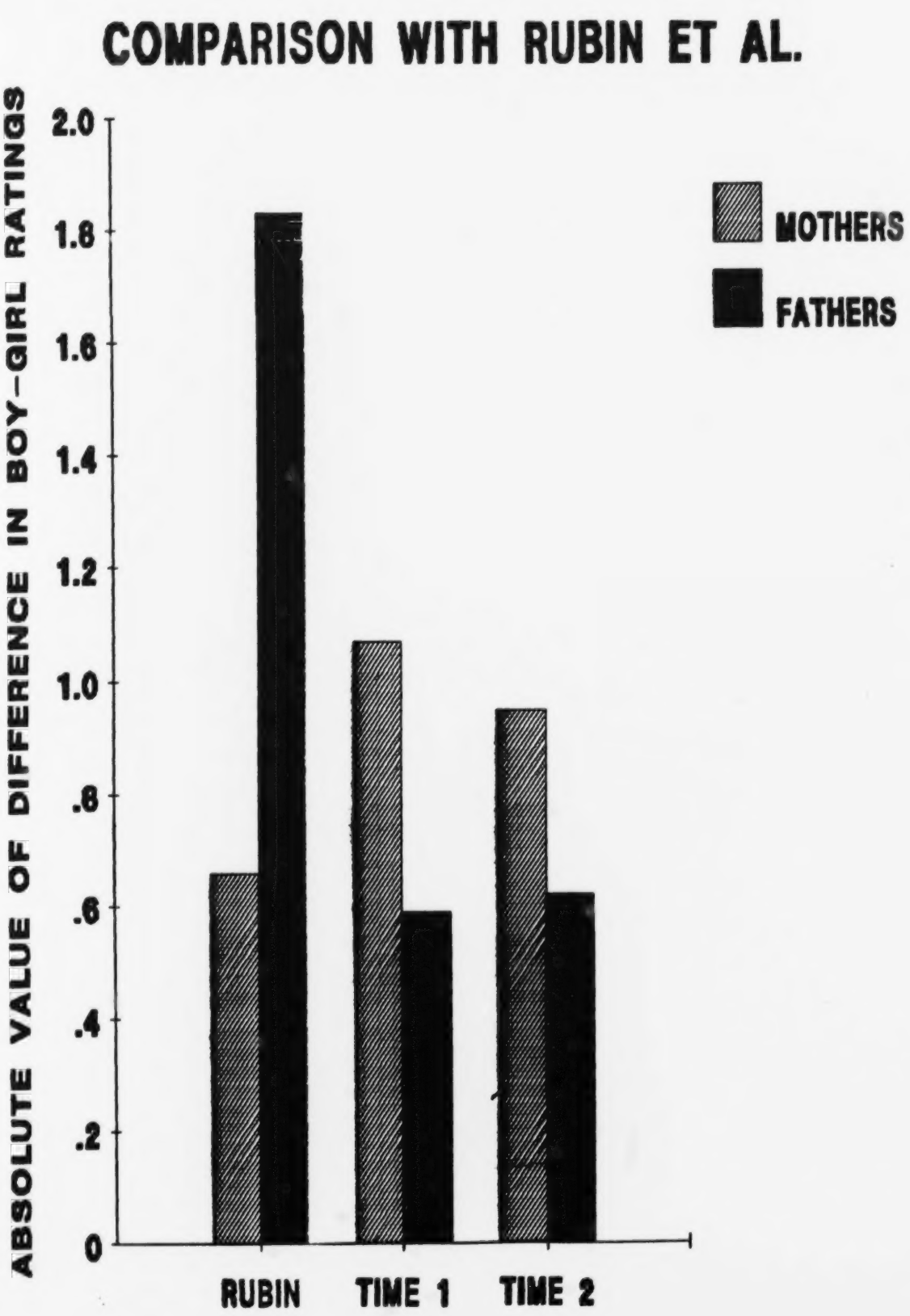
COMPARISON WITH RUBIN ET AL.
ABSOLUTE VALUE OF DIFFERENCE IN BOY-GIRL RATINGS
2.0
1.8
1.6
1.4
1.2
1.0
.8
.6
.4
.2
0
MOTHERS
FATHERS
RUBIN
TIME 1
TIME 2

Figure 2

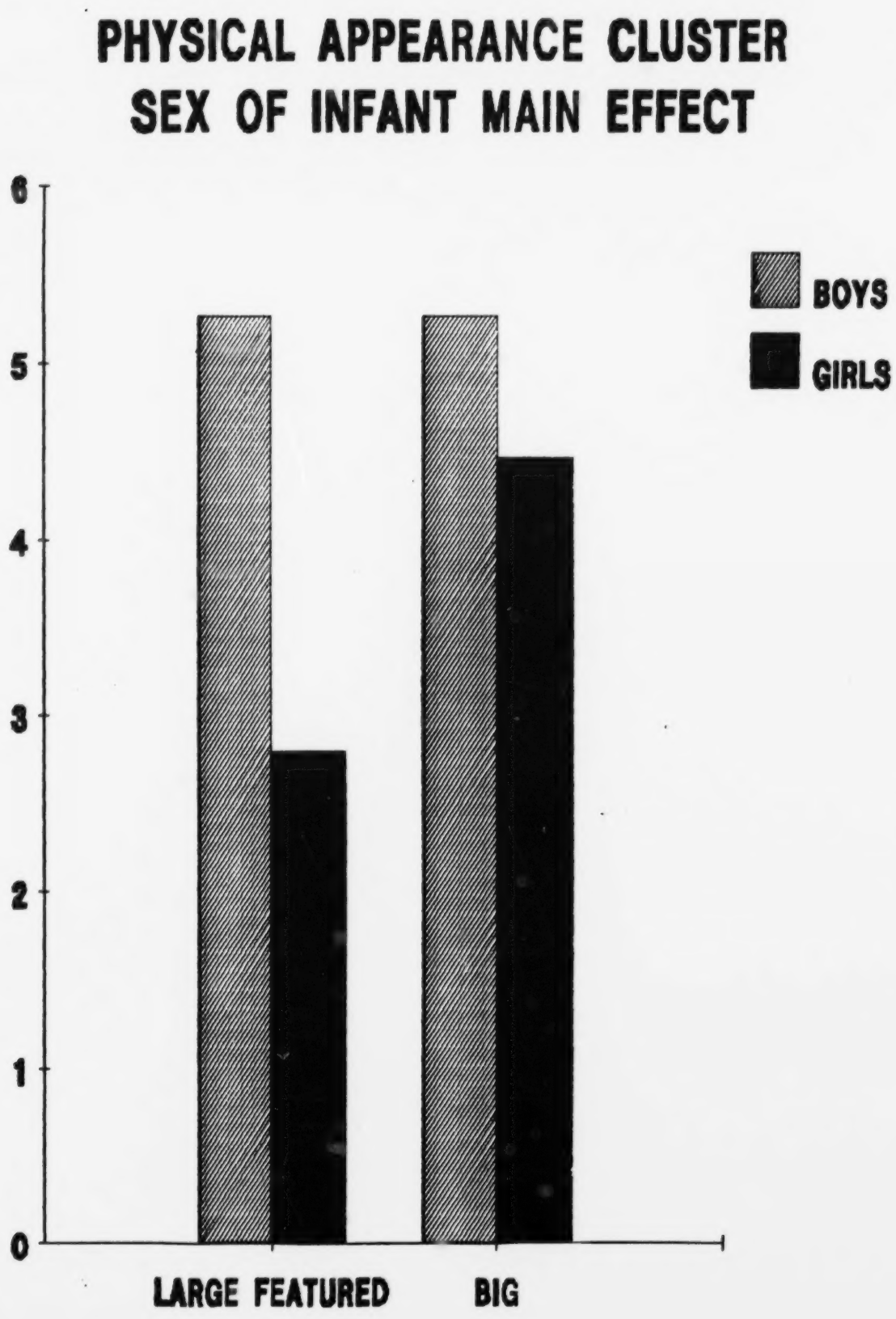
PHYSICAL APPEARANCE CLUSTER
SEX OF INFANT MAIN EFFECT
6
5
4
3
2
1
0
BOYS
GIRLS
LARGE FEATURED
BIG

Figure 3

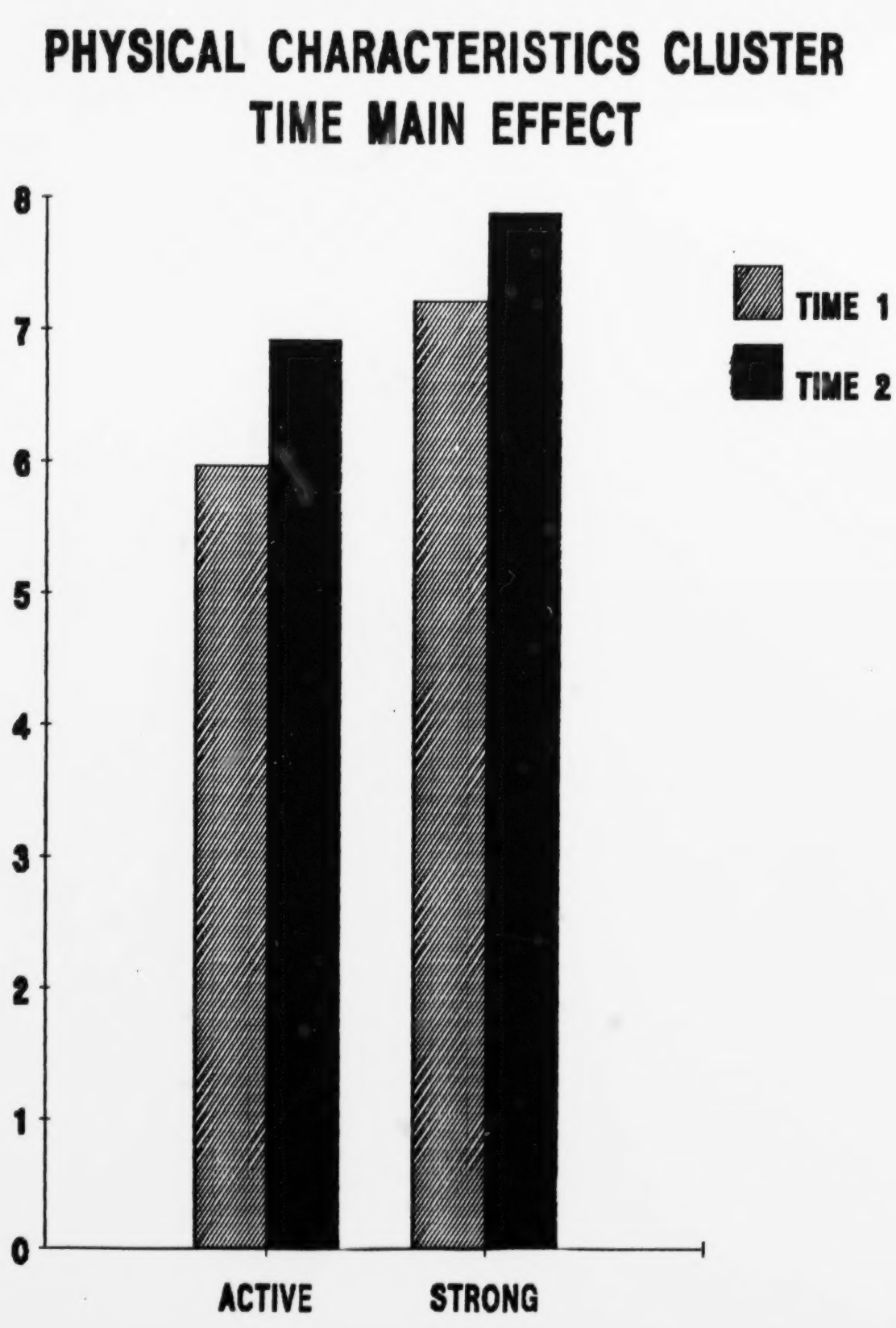
PHYSICAL CHARACTERISTICS CLUSTER
TIME MAIN EFFECT
8
7
6
5
4
3
2
1
0
TIME 1
TIME 2
ACTIVE
STRONG

Figure 4

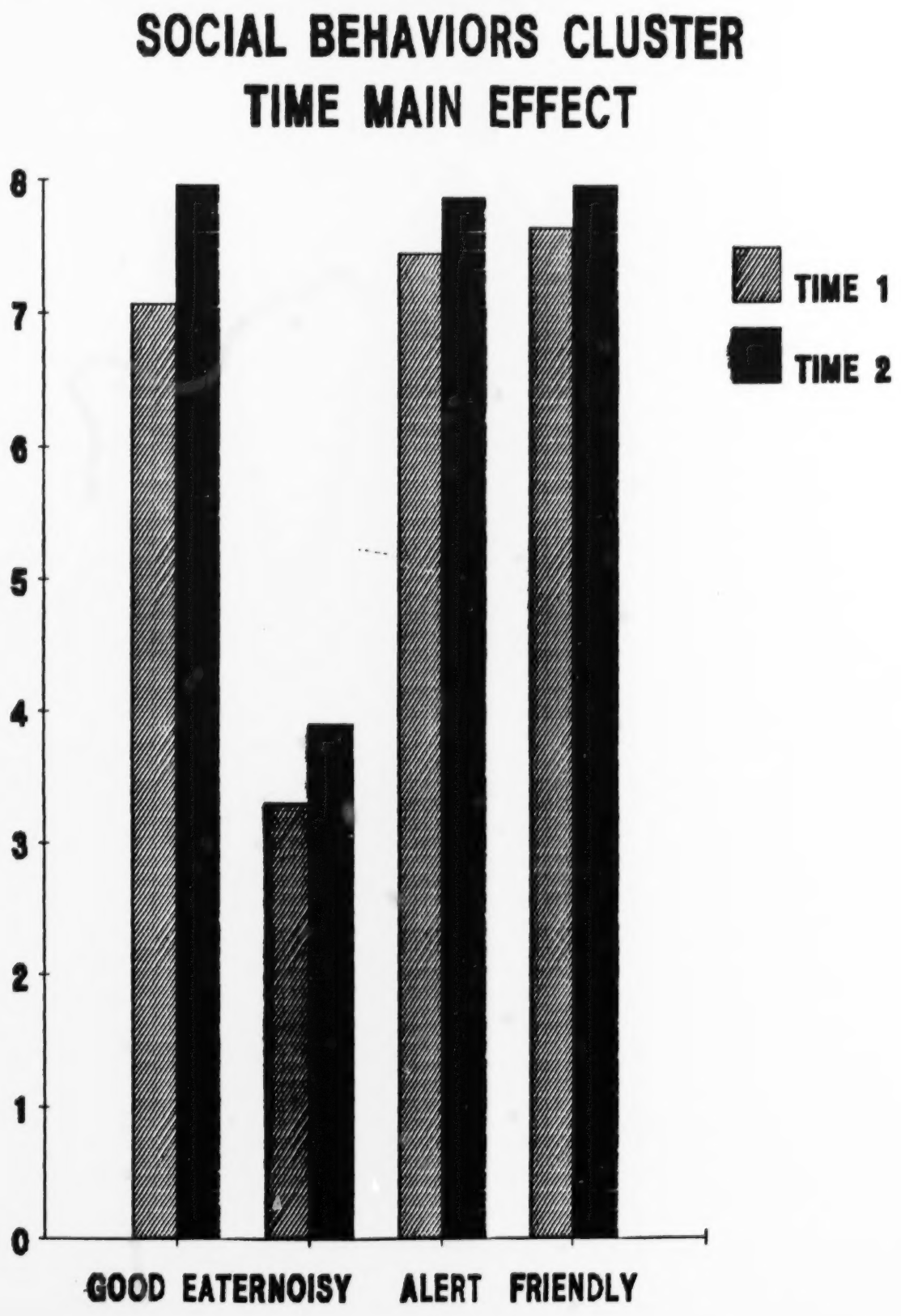
SOCIAL BEHAVIORS CLUSTER
TIME MAIN EFFECT
8
7
6
5
4
3
2
1
0
TIME 1
TIME 2
GOOD EATERNOISY
ALERT FRIENDLY

Figure 5

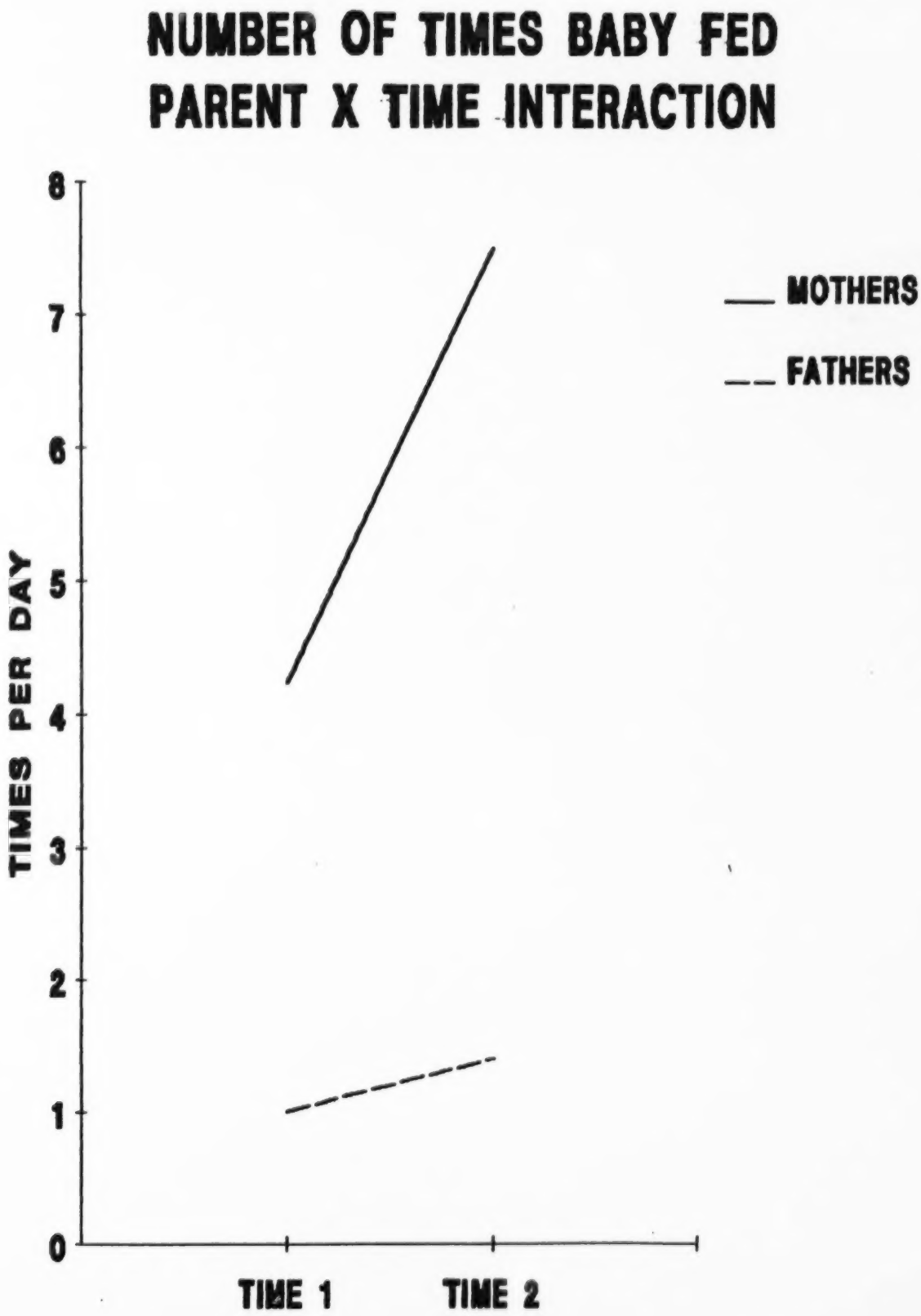
NUMBER OF TIMES BABY FED
PARENT X TIME INTERACTION
TIMES PER DAY
8
7
6
5
4
3
2
1
0
TIME 1
TIME 2
MOTHERS
FATHERS

Figure 6

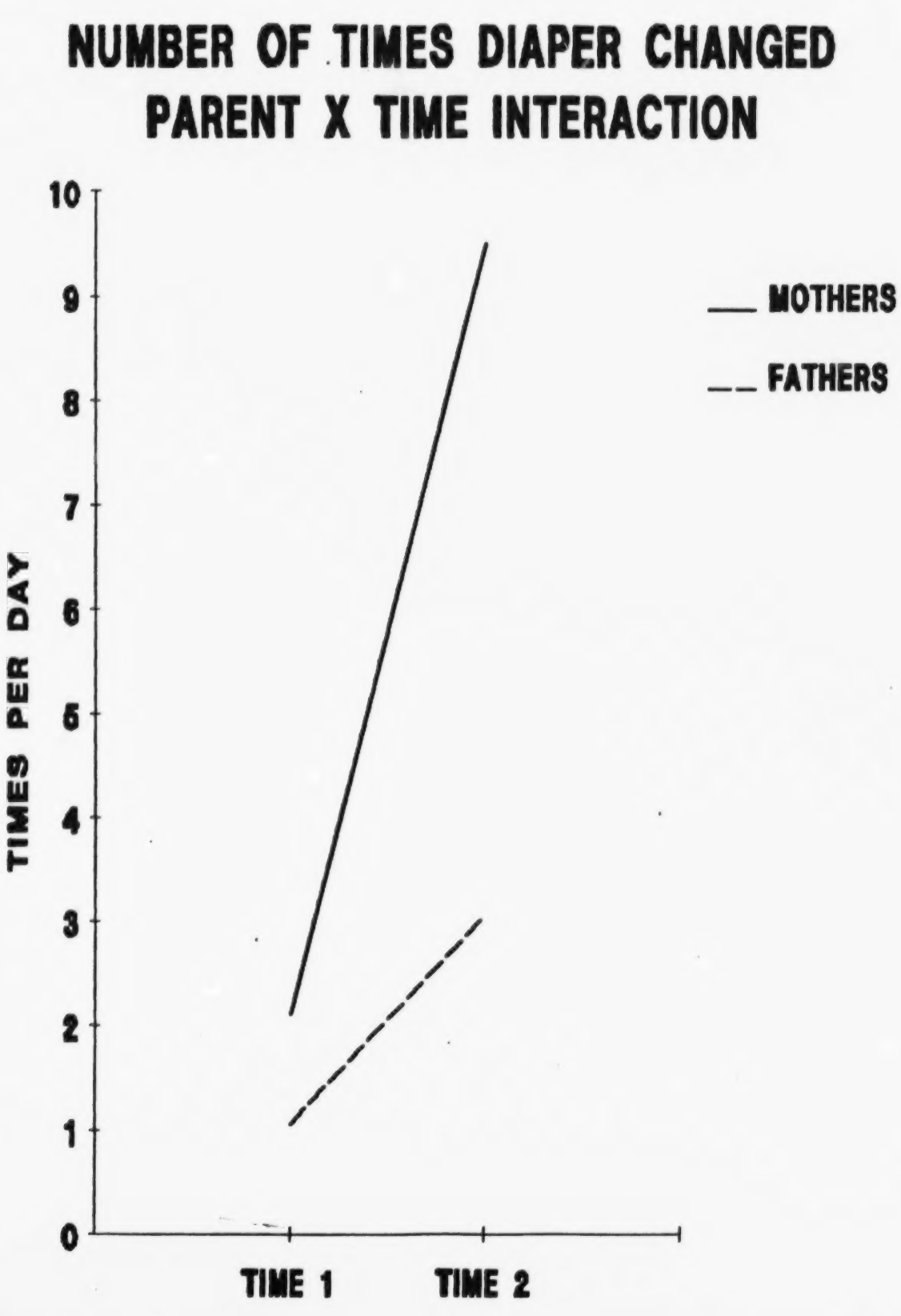
NUMBER OF TIMES DIAPER CHANGED
PARENT X TIME INTERACTION
TIMES PER DAY
10
9
8
7
6
5
4
3
2
1
0
TIME 1
TIME 2
MOTHERS
FATHERS

Figure 7

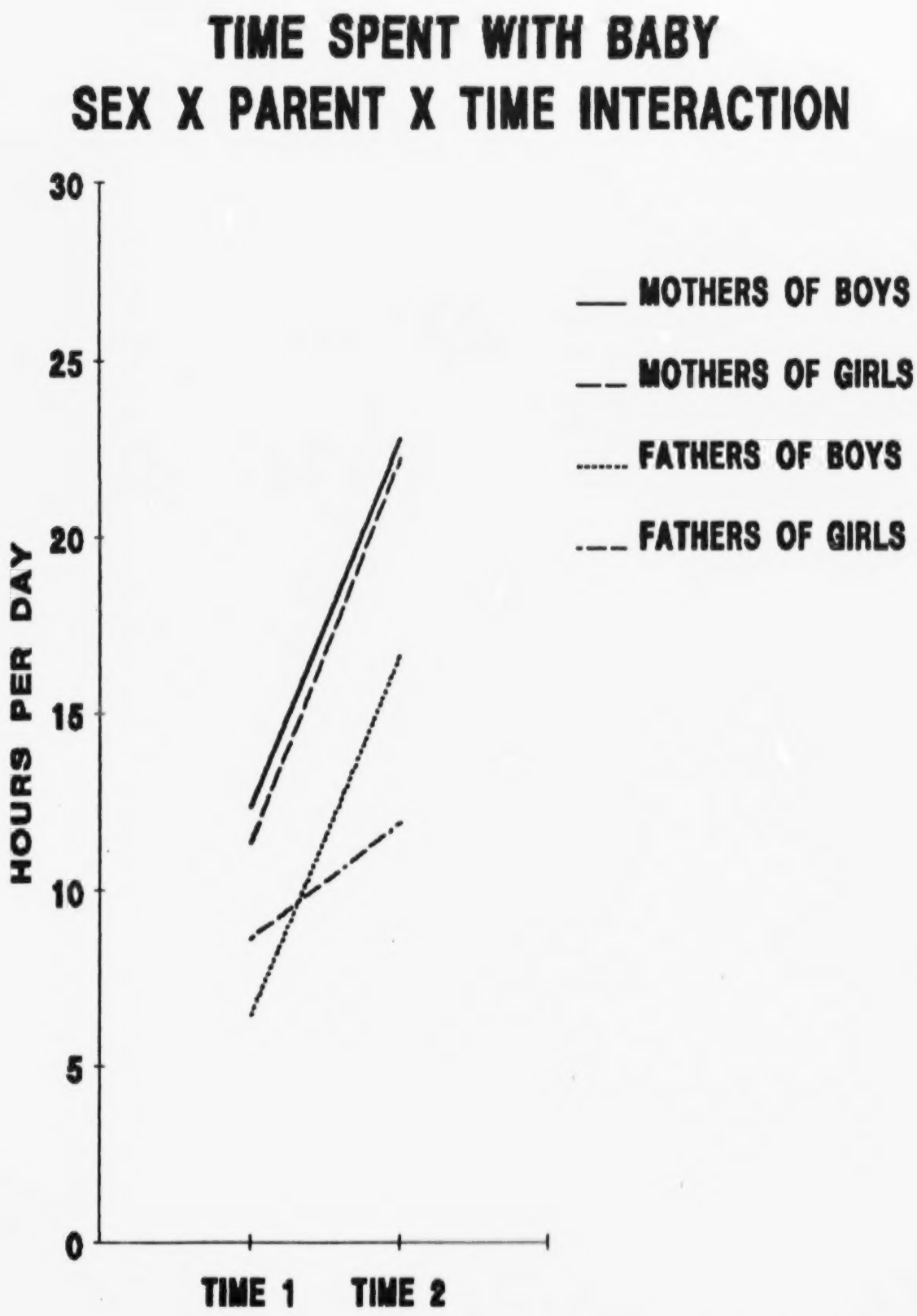
TIME SPENT WITH BABY
SEX X PARENT X TIME INTERACTION
30
25
20
15
10
5
0
HOURS PER DAY
TIME 1
TIME 2
MOTHERS OF BOYS
MOTHERS OF GIRLS
FATHERS OF BOYS
FATHERS OF GIRLS

Figure 8

TIME SPENT HOLDING BABY
SEX X PARENT X TIME INTERACTION